PROGRESS

OF

MEDICAL SCIENCE.

MEDICINE.

UNDER THE CHARGE OF

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The Justus Blood-test for Syphilis.—Jones (*New York Medical Journal*, April 7, 1900, p. 513) has recently made a study of the test for syphilis first described by Justus in 1895, and later elaborated by him in 1897. Since that date the only confirmatory report that has been published is that of Cabot and Mertins in 1899.

The test depends on the asserted fact that a single inunction of mercury in all untreated cases of secondary, tertiary, and congenital forms of syphilis causes a reduction of from 10 to 20 per cent. in the hæmoglobin in about twenty-four hours. Justus states that the reduction follows intravenous and subcutaneous injections as well as inunctions, but that the administration of the drug by the mouth has no effect on the blood.

Justus obtained positive results in more than three hundred cases of syphilis. The test was negative in a large series of non-syphilitic cases. Cabot has in part confirmed the results obtained by Justus, although he obtained the reaction in two non-syphilitic patients—one, a case of tertian malaria, and the other a patient with chlorosis.

This test was obtained by Justus also in thirteen out of sixteen cases in which only a fresh chancre and inguinal adenitis were present. Both Justus and Cabot agree that so-called "latent" cases and cases which are subsiding either spontaneously or under treatment do not respond to the test.

During the last six months Jones has tried the test in fifty-three cases, thirty-five of which were luetic, the other eighteen being controls.

The syphilitic cases were subdivided as follows: (1) Seventeen cases of active syphilis not under treatment; of these the test was positive in thirteen and negative in four. (2) One case of active syphilis not under treatment; this case did not respond to the test. (3) Two latent cases; these body as a rudimentary sense-organ, the recognition of the dual origin of the pituitary body, the significance of the longitudinal striæ on the corpus callosum as parts of a rudimentary supra-callosal gyrus, the morphological value of the so-called fifth ventricle as an isolated portion of the primary longitudinal fissure, the exclusion of the pia from the ventricular cavities by the attenuated wall of the neural tube in localities in which the vascular tunic apparently lies within these spaces, are instances of the many suggestive facts relating to the complex architecture of the brain gained by a study of its development. Much of the advance made in the more accurate tracing of the various fibre-tracts within the central nervous system has been due to investigations upon fœtal organs.

An understanding of the relations of the abdominal viscera to the peritoneum, and especially of the variations in the arrangement of the latter, are greatly facilitated by following the changes which take place in the position and peritoneal investment of the digestive tube during its development. The conspicuous asymmetries presented in the body, as the difference in the relation of the recurrent laryngeal nerves to the great arterial trunks, the greater length of the left innominate and the left common iliac veins, in comparison with the corresponding vessels of the right side, and the difference in the points of termination of the spermatic veins on the two sides, are additional examples of relations requiring the aid of embryology in their interpretation. The interesting and often important variations in the arrangement of the arterial branches springing from the aortic arch are all to be explained as deviations from the usual developmental plan in man, in consequence of which portions of the primitive aortic bows are retained, suppressed or modified, thereby giving rise to the anomalies of the later arteries.

While at every turn the value of an acquaintance with the course of development in the elucidation of the details of human anatomy becomes apparent, it is particularly in the solution of the problems concerning malformations that embryology has been of inestimable service. So intimate has been this relation that the elevation of teratology from the domains of fanciful and grotesque empiricism and speculation to a position of scientific dignity has been possible only after rational explanations had been suggested by modern embryology.

The large and important group of malformations depending upon arrested development especially emphasizes the necessity of studying the normal formative processes. The interesting congenital variations affecting the urogenital tract offer striking examples of modifications brought about by the faulty union of parts which normally fuse, the persistence of passages which usually atrophy and disappear, or the undue preponderance of structures which ordinarily remain of secondary importance. The solution of the still unsettled problem of the production of double monsters will be effected only after further advances in our knowledge of the conditions affecting the earliest phases of development, although the experimental investigations of Born, Schultze, Wilson, Morgan, Schaper and others have supplied already many suggestive facts applicable to the study of duplicities. Further instances of the value of embryology might readily be cited, but the foregoing will suffice to indicate its now generally conceded importance to every thorough student of anatomy and pathology.

While in embryology, as in all departments of biology, the most lasting impressions are gained by personal examination of the actual object, yet even to the laboratory worker the systematic and trustworthy summary of the results of the best investigations in the many fields of developmental research is indispensable, still more is this true of the busy professional man to whom the text-book and the journal are often the only available sources of information relating to subjects outside his immediate field of personal observation. The two books before us constitute a storehouse of embryological data, embracing, as they do, development from the low invertebrate forms to the most highly specialized vertebrate—man.

The first instalment of the English translation of Korschelt and Heider's admirable *Lehrbuch der vergleichenden Entwicklungsgeschichte der wirbellosen Thiere,* by Mark and Woodworth, appeared in 1895, and was welcomed by those especially interested in invertebrate morphology. The first volume included the development of *Porifera, Cnidaria, Ctenophora, Vermes, Enteropneusta,* and *Echinodermata,* and, in addition to supplementary matter by the authors, contained valuable notes by the American translators. Owing to unavoidable circumstances the preparation of the succeeding parts of the work was greatly delayed until the task was assumed by the present English translator and editor, Bernard and Woodward, to whose energy morphologists are indebted for the appearance of Volume II., promptly followed by Volume III., with the promise of the early completion of the work in Volume IV., which will appear within the next few months.

A detailed account of the contents of these parts is not called for within the pages of this journal; suffice it to say that the work of the translator and the editor maintains the satisfactory standard set in the first part. Vol. II. discusses the development of *Phoronidea, Bryozoa ectoprocta, Brachiopoda, Entoprocta, Crustacea,* and *Palaeostraca;* Vol. III. contains that of *Arachnida, Pentastomidæ, Pantopoda, Tardigrada, Onychophora, Myriopoda,* and *Insecta.* While the work is necessarily somewhat technical, the descriptions are lucid and concise, and illustrated with fair liberality by figures from various sources. Each section is followed by a classified list of the most important contributions to the subject under consideration. The completed translation of Korschelt and Heider's hand-book will form a worthy companion on the morphologist's book-shelves for the classic *Comparative Embryology* of the still lamented Balfour.

It is of interest to note the results of the editor's attempts to find an acceptable English synonym for the expressive "Anlage" of the Germans. The editor was undoubtedly justified in discontinuing the use of "fundament," which had been suggested and employed in this capacity by Prof. Mark in Vol. I., as well as in his translation of Hertwig's embryology. Dr. Woodward's selection of "rudiment" as a substitute would be most happy were it not for the idea of arrest, reduction, or suppression now inseparably associated with the word. This objection the editor himself recognizes, but suggests the possibility of adopting "vestige" as applicable to the undeveloped structures and reserving "rudiment" to indicate the primary area from which an organ arises. We doubt greatly the possibility of realizing this suggestion, and believe that the adoption of "anlage," while admitting our inability to find an exact substitute for this subtle German term, is the most satisfactory solution of the question.

The purpose of the author of the second text-book before us—*Heisler's Embryology*—has been to present the development of the human body in a manner best suited for students of medicine. Avoiding the introduction of confusing technicalities as far as possible and ignoring much of the more speculative and theoretical considerations found in the larger works, Dr. Heisler has succeeded in describing the essential facts of human embryology with clearness and conciseness. Keeping in view that the development of man was to be the special purpose of the book, the author, as far as practicable, has chosen illustrations representing the human embryo. In addition to the attractive reproductions of figures from well-known authorities, a number of original drawings have been added, among the latter an excellent colored plate, showing diagrammatically the evolution of the urogenital system, which will be of great assistance in mastering this somewhat complex subject. A tabulated chronology of development, carefully prepared and unusually complete, forms an appropriate appendix, which will be of much assistance to the physician when called upon to estimate the age of the product of conception. The preparation of this text-book has placed at the command of student and practitioner an excellent source from which to gain an intelligent understanding of the salient points of human embryology. G. A. P.

DIE TECHNIK DER SPEZIELLEN THERAPIE. EIN HANDBUCH FÜR DIE PRAXIS. Von DR. F. GUMPRECHT, Professor in Jena. Mit 182 Abbildungen in text. Zweite neu durchgesehene und vermehrte Auflage. Jena: Verlag von Gustav Fischer, 1900.

THE TECHNICS OF SPECIAL THERAPY. By F. GUMPRECHT. Second Edition.

A SHORT time ago (THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, September, 1898) we reviewed the first edition of this work, calling attention to its points of excellence and predicting for it a career of usefulness. The fact that the book has already gone into a second edition is sufficient evidence that it is appreciated. In the present edition the author has carefully revised every chapter, so that relatively unimportant parts have been cut out, other parts expanded, and some new topics introduced. The arrangement of the material is altered in such a way as to make it somewhat easier for reference. Among the additions we find a description of tracheotomy, which no doubt deserves a place in such a work, but is more briefly described than many of the other operations, no doubt on account of its full treatment in surgical works. Another addition, the advisability of which we question, is the direction for diagnostic puncture in perityphlitis. The author recommends the procedure because it shows the patient the necessity of an operation and indicates to the operating surgeon the place for incision, and adds that it deserves the widest application. This operation has been abandoned so long in the country where perityphlitis operations were earliest and most extensively developed that it is hardly likely to be taken up here anew; that it is still practised in Germany is a significant fact, and one that does not reflect credit on surgical diagnosis there, while the necessity of postponing an operation until pus can be shown the patient seems to show a very slight appreciation of the advances in surgery among the masses in the land of thinkers. But this recommendation is not, of course, to be attributed to the author, and it forms a striking exception to most of his suggestions. Not only are the various technical directions well selected, but even in the case of comparatively new methods the author almost always has a large personal experience to draw upon, and is thus enabled to give force and vividness to his statements. Besides this, the sections devoted to the results and accidents of the different operations are of great value, especially to those with limited personal experience, while the historical notes and the bibliographical lists can be referred to with profit even by specialists.

The book can be emphatically recommended to all who wish to perfect themselves in one of the most important parts of therapeutic technique. G. D.

A MANUAL OF MODERN SURGERY: AN EXPOSITION OF THE ACCEPTED DOCTRINES AND APPROVED OPERATIVE PROCEDURES OF THE PRESENT TIME. FOR THE USE OF STUDENTS AND PRACTITIONERS. By JOHN B. ROBERTS, A.M., M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Mütter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. Second edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co.

THE author of this book states in the preface that he presents this, the second edition, with the belief " that a volume from a single pen may be more equable in its teachings than a composite book from many minds." This belief is one that is not confined to the author, but has many adherents, at least so far as the one-volume text-book is concerned. In the volume at hand the author has succeeded in embodying, in a comparatively limited space and in a simple and readable manner, the essentials of the art of modern surgery. The many advances made since the publication of the first edition have necessitated the introduction of much new matter, and in this respect the book is well abreast of the times. The chapter on Fractures is especially complete, the discussion of this important subject occupying 138 of the 814 pages. In the discussion of Treatment the author is at times suggestive rather than dogmatic, which if it be a drawback would be one appreciated perhaps more by the student than the general practitioner, and from the stand-point of the student there is something also to be said in favor of supplying the name of the man who devises an operation or describes a method of treatment when that name is usually associated with it, which the author at times, and perhaps purposely, omits to do. The illustrations are fairly numerous, and some of them of superior quality, and we repeat that the book on the whole is a satisfactory *résumé* of the field of the surgery of to-day. J. H. J.

REVIEWS.

TEXT-BOOK OF THE EMBRYOLOGY OF INVERTEBRATES. By E. KORSCHELT and K. HEIDER. Translated from the German by MATILDA BERNARD. Revised and edited, with additional notes, by MARTIN F. WOODWARD. Vols. II. and III. London: Swan, Sonnenschein & Co., Ltd., 1899.

A TEXT-BOOK OF EMBRYOLOGY FOR STUDENTS OF MEDICINE. By JOHN CLEMENT HEISLER, M.D. Philadelphia: W. B. Saunders, 1899.

THE appearance of an additional text-book of human embryology by an American author bears testimony to the steadily growing appreciation of this fundamental department of anatomy by the profession of this country. When anatomy was regarded simply as the handmaid of surgery and of medicine, and was valued accordingly by utilitarian standards alone, embryology was considered by many as superfluous for such study of the human body as concerned the "practical" man. We still too often lose sight of the important fact that whether the knowledge of our complex organism be gained by the scalpel and the unaided eye, or by the section-knife and the microscope, or whether the subjects of investigation be the form and relations of the various parts of the adult body, or the details and the sequence of the changes incidental to the development of such parts, our study is all to one purpose—the intelligent comprehension of the anatomy of the complex human body.

The importance of an adequate acquaintance with the structural make-up of the various tissues and organs needs no argument these days, when well-equipped laboratories and practical instruction in histology are features in the curriculum of every reputable medical school. That a just appreciation of the significance of many details of the adult body is had only after studying the manner in which the parts and organs are formed is equally evident.

The brilliant investigations of Hertwig, Van Beneden, Boveri, and others regarding fertilization of the ovum have given us definite knowledge pertaining to the details of the changes following impregnation and placed the modern conception of heredity upon a basis of almost mathematical accuracy, in showing the precision with which the chromatin contributed by the two parent germ-cells is mingled within the ovum and subsequently divided between the nuclei of the new cells resulting from segmentation.

The advantages of approaching the study of the brain through embryology is recognized in our best text-books of anatomy, in which the description of the complex adult organ is prefaced by an account of its general development, and justly so, since the significance and true relations of many parts of the encephalon in this manner are best obtained. The now generally accepted interpretation of the pineal